

What is claimed is:

1. Semiconductor device manufacturing equipment comprising : a transfer chamber; a plurality of working chambers, at least some of said working chambers being disposed one above the other at one side of said transfer chamber, said working chambers being respectively connected to said transfer chamber independently of each other; and a robot disposed in said transfer chamber, said robot including at least one robot arm, the at least one robot arm having a working range that encompasses said plurality of working chambers such that said robot can transfer wafers between respective ones of said working chambers via said transfer chamber.

2. The semiconductor device manufacturing equipment of claim 1, wherein said plurality of working chambers comprise a plurality of process chambers in which wafers are processed, and a plurality of load lock chambers, each of said load lock chambers having first and second doors that separate the interior of the load lock chamber from the environment outside the equipment and the interior of said transfer chamber, respectively.

3. The semiconductor device manufacturing equipment of claim 2, wherein at least some of said process chambers are disposed one above the other at one side of said transfer chamber, and at least some of said load lock chambers are

disposed one above the other at another side of said transfer chamber.

4. The semiconductor device manufacturing equipment of claim 1, wherein said plurality of working chambers comprise a plurality of process chambers in which wafers are processed, and a load lock chamber, said process chambers and said load lock chamber being disposed one above the other as aligned vertically at one side of said transfer chamber.

5. The semiconductor device manufacturing equipment of claim 2, wherein a number of said process chambers are disposed side-by-side above another one of said working chambers at one side of said transfer chamber.

6. The manufacture equipment of claim 2, wherein the working chambers that are disposed one above the other at one side of said transfer chamber are also disposed offset from each other in a horizontal direction corresponding to the direction in which said working chambers are spaced from said transfer chamber.

7. The semiconductor device manufacturing equipment of claim 1, wherein said robot comprises at least two robot units disposed at upper and lower portions of said transfer chamber, each of said robot units comprising a said robot arm.

8. The semiconductor device manufacturing equipment of claim 2, and further comprising an indexing mechanism mounted adjacent the first doors of said load lock chambers.

9. The semiconductor device manufacturing equipment of claim 8, wherein said indexing mechanism comprises a shelf, an elevator connected to said shelf and operable to raise and lower said shelf along a path extending alongside the first doors of said load lock chambers, and a sliding transfer unit mounted to said shelf so as to be slidable therealong into and out of a said load lock chamber alongside which the shelf has been positioned by said elevator.

10. The semiconductor device manufacturing equipment of claim 4, wherein said robot arm includes a support shaft extending vertically through said transfer chamber, a moving shaft mounted to the support shaft so as to be movable vertically therealong, an arm member mounted to said moving shaft so as to be vertically movable therewith, said arm member being extendable and retractable in a horizontal direction toward and away from said working chambers, and a wafer support member adapted to support a wafer and mounted to an end of said arm member.

11. The semiconductor device manufacturing equipment of claim 1,

wherein said robot arm includes a movable arm support disposed above said transfer chamber and movable in horizontal directions toward and away from said working chambers, an arm member mounted to said movable arm support so as to be movable therewith in said horizontal directions, and said arm member being vertically extendable and retractable, a wafer support member disposed at an end of said arm member, and a joint mounting said wafer support member to an end of said arm member such that said wafer support member is rotatable about a horizontal axis on the end of said arm member.

12. Semiconductor device manufacturing equipment comprising : a transfer chamber; a plurality of working chambers, a plurality of wafer support members disposed in each of said working chambers and configured to support a plurality of wafers side-by-side, each of said working chambers being respectively connected to said transfer chamber; and a robot disposed in said transfer chamber, said robot including a robot arm, the robot arm having a working range that encompasses said plurality of working chambers and comprising a branched wafer support arm having a plurality of wafer supports capable of simultaneously supporting a plurality of wafers, the number of said wafer supports of said robot arm corresponding to the number of wafer support members disposed in each of said chambers such that said robot can transfer a plurality of wafers at one time between respective ones of said working chambers via said transfer chamber.